

**THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE  
PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:**

1. An interpolator for processing an image comprised of an array of pixels, the  
5 interpolator comprising:  
(a) a feature extractor for processing a pixel sequence contained in the array of pixels to  
extract visually significant features therein;  
(b) a feature comparator for matching similar extracted features in adjacent pixel  
sequences; and  
10 (c) an alignment controller using said matched features to select visually most relevant  
source pixels to generate a target pixel.
2. An interpolator as defined in claim 1, said feature extractor including a state machine.
- 15 3. An interpolator as defined in claim 1, said feature comparator including a correlator for  
determining said feature similarities.
4. An interpolator as defined in claim 1, said alignment controller generating said target  
pixel position by computing a sequence of relative shifts between adjacent rows.
- 20 5. A method for interpolating a target pixel in an array of source pixels, comprising the  
steps of:  
(a) processing rows of the array to identify sequences of pixels characterizing visually  
25 significant features;  
(b) matching similar features in adjacent rows and;  
(c) using said matched features to select visually most relevant source pixels to generate a  
target pixel.
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